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U.S. Department of Transportation
Docket Management Facility, Room PL-401
400 Seventh Street, SW
Washington DC 20590

Re: FHWA Docket No. FHWA-2001-8954
RIN 2125-AE86

Federal Highway Administration
23 CFR Part 650
National Bridge Inspection Standards (NBIS)

APPLICATION of STANDARDS

Question: *"Should the FHWA develop its own definition of a bridge for the purpose of inspection and reporting?"*

Response: No. The AASHTO definition has been used for many years and is a reasonable definition, changing it would involve additional work for the public authorities in revising documents etc.

However, clarification is needed in Section 650.301 to clearly indicate that the NBIS apply only to bridges carrying highway traffic and not to bridges carrying only railroads or pedestrians.

Question: *"Should the FHWA definition change the way the bridge length is determined or what the minimum bridge length should be for reporting purposes?"*

Response: No. We recognize there is a difference between the way Structure Length (Item 49) on the SIA Sheet is measured and the measurement used in the definition of a bridge (Item 112). Changing these would involve additional work for the public authorities in revising documents, etc. and is not worth the effort.

Question: *"What impact will the possible inclusion of more bridges be (1) on public authorities complying with this as an NBIS request; (2) or on FHWA which maintains the inventory, (3) or on the HBRRP funds.*

Response: The impact would be significant on both the public authorities and FHWA. Do not increase the number of bridges covered by the NBIS. The public

authorities should use their own expertise and experience in deciding how and when to inspect structures that are 20' and less in length.

Question: *"What impact will changing the underwater inspection intervals have on public authorities complying with this as an NBIS requirement?"*

Response: There would be a significant reduction in the cost of conducting underwater inspections if the inspection interval was increased. We firmly believe, based on our experience with underwater inspections, that increasing the interval would not impact safety.

Note: The sounding of the streambed at a bridge crossing, while generally accomplished at the same time as underwater inspection, is not part of the five year underwater inspection requirements of the NBIS.

The majority of the stream/river piers in Iowa and many other states are constructed in dewatered earth or steel cofferdams, thus the condition of the underwater portions are well known at the time of construction. The piers generally are wall, or "T" type units supported by footings on piles. The thickness of the underwater elements is greater than 2 feet. The cross-sectional area of the underwater portions of these piers is substantial; therefore, considerable deterioration would have to occur before their structural integrity would be affected.

Based on our experience, we believe the first underwater inspection of the above type of piers should be conducted ten years after construction. The interval to the next inspection should then be determined by the owner based on the condition determined by the first inspection. A maximum interval of ten years could be continued if the underwater portions are found to be in good, near as-built condition. If the underwater elements are not in good condition, the owner should determine what frequency is needed.

The maximum inspection frequency for pile bent (timber, steel or concrete) type piers should continue to be five years.

The Iowa DOT has been conducting underwater inspections for nearly twenty years. We have not found any situations where wall or "T" type piers have deteriorated below water to the point where their structural integrity was endangered. Based on this experience, we believe the present five year inspection frequency requirement is not a good expenditure of funds.

Question: *Also, the FHWA is seeking comment on whether it should provide guidance for what public authorities should do after major storm events.*

Response: The FHWA should not include specific requirements in the NBIS regarding what bridge owners should do after major storm events. The FHWA has emphasized evaluating bridges for their vulnerability to scour for ten years via Technical Advisory T5140.23. Therefore, the owners are aware of the

potential for scour at bridges during major storm events, and they should have flexibility in deciding what action they would take when such events occur.

Question: *What, if any, would be the impact on public authorities complying with evaluation of scour at bridges criteria within the NBIS regulation?*

Response: The impact should not be significant in view of the steps the FHWA has taken during the ten plus years that the T5140.23 has been in effect. The public authorities should, by now, have evaluated their bridges for vulnerability to scour.

FREQUENCY OF INSPECTIONS

Question: *Should the 4-year interval be increased so that more bridges would be eligible for the extended inspection cycle? What would be a reasonable interval? What impact would this have on the safety of bridges?*

Response: The four-year interval should not be increased. It is a reasonable maximum interval.

QUALIFICATION OF PERSONNEL

Question: *Should the individual in charge of the inspection and reporting who is a PE be required to have the same training as bridge inspectors and have additional experience in bridge inspection?*

Response: The NBIS should not make this a requirement.

Question: *Should the NBIS regulation be more specific as to the discipline of the professional engineer responsible for these bridge inspections and what impact would this change have on public authorities complying with this?*

Comment: The second paragraph contains the statement “The FHWA is considering requiring that bridge inspections be performed (underlining added) by either a civil or structural engineer who is also a licensed professional engineer”. We assume this applies only to Section 650.307(a)1 and not to 650.307(b).

Response: If the above is true, then we agree with the question.

We believe that the requirement in 650.307(b)1 should not be revised to require the engineer to be registered. A revision to (b)1 to require a civil or structural engineer is reasonable.

Question: *The FHWA is considering requiring certification training in proportion to the complexity of the bridge structure being inspected, and making this a part of a requirement for inspectors under the national bridge inspection program. What impact would this change have on public authorities complying with this requirement?*

Response: This type of certification should not be a requirement of the NBIS. The individual in charge of the organizational unit (650.307a) should be allowed to decide if and what training is needed in addition to that specified in 650.307(b)2.

Question: *Should those performing underwater inspections be qualified licensed professional engineers? Current regulations do not stipulate that the inspector in the water must also be an engineer. What impact would these proposed changes have on public authorities complying with this?*

Response: The NBIS should not specify that each of the inspectors in the water be an engineer. The individual in charge of the inspection team should meet the requirement of Section 650.307(b). If none of the divers are licensed engineers, a licensed engineer should be on site to interpret the information from the divers.

INSPECTION REPORT

Question: *What if any would the impact be on public authorities complying with only allowing the inspector who was out in the field to change the inspection report as an NBIS requirement?*

Response: The second paragraph contains the following statement "..any change to an inspection report should be made by the inspector who was out in the field. This procedure should be clearly covered in the NBIS."

The NBIS should not contain a requirement that "only the inspector who was out in the field can change the inspection report." This type of a requirement is too broad (For example: What would be considered the "inspection report"? Would it be the SIA Sheet? Would it be any document prepared by the inspector?).

The requirement would also be too restrictive (For example: There are situations where management and others in the inspection organization unit have sufficient information/knowledge about a specific item or the condition of a bridge element to make a change in an inspection report or document).

If a change is made in a document prepared by the inspector, it should be initialed and dated.

INVENTORY

Question: *Should the reporting requirements for the NBIS be changed and what, if any, would the impact be on public authorities complying with this?*

Response: The existing wording in Section 650.311(b) needs to be clarified. We recommend: "The following Structural Inventory and Appraisal Data shall be entered into the State's computer inventory file as promptly as practical, but no later that 90 days after the change in status of the structure for

bridges directly under the State's jurisdiction and no later than 180 days after the change in status of the structure for all other bridges on public roads within the State.

•Inventory and Appraisal Data for newly completed structures.

•Inventory and Appraisal Data for existing structures which have been modified/rehabilitated.

•Revised Inventory and Appraisal Data due to placement of load restriction signs on the approaches to or at the structure itself."

ADDITIONAL GENERAL QUESTIONS

Question 1: *Does the current regulation at 23 CFR part 650, subpart C, correctly address the requirements of 23 U.S.C. 151, national bridge inspection program?*

Response: In general, yes, but there is the need to revise the regulation based on comments received under the proposed rule making.

Question 2: *What improvements would you recommend to the bridge inspection procedures?*

Response: We assume the reference to "bridge inspection procedures" means Section 650.303.

We recommend that the following be added to Section 650.303(a). "The depth to which individual bridges are to be inspected will depend on such factors as age, traffic characteristics, state of maintenance, and known deficiencies. The type/depth of the inspection will be determined by the individual in charge in the inspection program based on an evaluation of these factors."

The second sentence of Section 650.305(b) should be changed by adding the word "these" after "….frequency to which".

Question 3: *What specific procedures would you recommend to enhance the NBIS regulations?*

Response: The recommendations contained in our above "Responses".

GENERAL COMMENT

FHWA's "Recording and Coding Guide for the Structural Inventory and Appraisal of the Nation's Bridges", which is referenced in the NBIS, should be revised after soliciting comments from the bridge owners.

An English version of the Guide should also be issued.